WHAT IS CLAIMED IS:

1. A guide for use in performing spinal surgery to prepare an implantation space across adjacent vertebrae, said guide for use with a computer controlled surgical navigation system employing an energy-detecting array to track positions of said guide in three dimensional space relative to a known reference point, said guide comprising:

a body for providing access to the adjacent vertebrae to prepare the implantation space, said body having a passage adapted to receive a tool through said body for forming the implantation space; and

at least one emitter array attached to said body for use in identifying the location of said guide relative to the adjacent vertebrae.

2. The guide of claim 1, wherein said emitter array includes at least one LED.

3. The guide of claim 1, wherein said emitter array is an electrically energizable energy emitter array.

4. The guide of claim 1, wherein said emitter array emits reflective signals.

5. The guide of claim 1, wherein said emitter extends to the side of said body to provide a line of sight from said emitter to the energy-detecting array of the navigation system.

6. The guide of claim 1, wherein said body comprises a hollow tube.

7. The guide of claim 6, wherein said hollow tube has a rectangular cross-section.

8. The guide of claim 1, wherein said body has an end including extensions for penetrating the spine.

9. The guide of claim 1, further comprising a disc penetrating extension extending from said body for insertion into the disc space between the adjacent vertebrae and for bearing against endplates of the adjacent vertebrae.

10. The guide of claim 1, further comprising spikes for engaging the adjacent vertebrae to inhibit displacement of the adjacent vertebrae during preparation of the implantation space.

11. A system for use in performing spinal surgery to prepare across a spinal disc and adjacent vertebrae an implantation space, said system comprising:

a guide for providing access to prepare the implantation space across the spinal disc and into the adjacent vertebrae, said guide having a passage adapted to receive a tool through said guide for forming the implantation space, said guide having at least one emitter array attached thereto for use in identifying the location of said guide relative to the adjacent vertebrae; and

a computer controlled surgical navigation system employing an energy detecting array to track positions of said guide in three dimensional space relative to a known reference point.

12. The system of claim 11, wherein said emitter array includes at least one LED.

13. The guide of claim 11, wherein said emitter array is an electrically energizable energy emitter array.

14. The guide of claim 11, wherein said emitter array emits reflective signals.

15. The guide of claim 11, wherein said emitter extends to the side of said body to provide a line of sight from said emitter to the energy-detecting array of the navigation system.

16. The system of claim 11, wherein said guide comprises a hollow tube.

17. The guide of claim 11, wherein said hollow tube has a rectangular cross-section.

18. The system of claim 11, wherein said guide has an end including extensions for penetrating the spine.

19. The system of claim 11, further comprising a disc penetrating extension extending from said guide for insertion into the disc space between the adjacent vertebrae and for bearing against endplates of the adjacent vertebrae.

20. The guide of claim 16, further comprising spikes for engaging the adjacent vertebrae to inhibit displacement of the adjacent vertebrae during preparation of the implantation space.

21. The system of claim 11, wherein said tool has an energy emitter for use in identifying the depth of penetration of said tool through said guide.

22. The system of claim 11, further comprising an inserter sized for passage through said guide, said inserter having at least one emitter array

attached thereto for use in identifying the location of said inserter relative to the adjacent vertebrae, said inserter adapted to hold one of an artificial implant and a bone dowel for insertion into the implantation space.

23. The system of claim 22, wherein said computer controlled surgical navigation system tracks the position of said inserter in a three dimensional space relative to a known reference point.

24. The system of claim 23, wherein said computer controlled surgical navigation system generates a display of the position of said inserter.

25. The system of claim 24, wherein said computer controlled surgical navigation system displays one of an artificial implant and a bone dowel on the end of said inserter based on the geometrical configuration of said inserter and of the one of the artificial implant and a bone dowel attached to said inserter being entered the geometrical configuration into said computer controlled system.

26. A method for performing spinal surgery with a guide used to provide protected access across a spinal disc and into adjacent vertebrae to prepare an implantation space, said method comprising the steps of:

contacting one end of said guide having at least one emitter array attached thereto to the adjacent vertebrae;

employing a surgical navigation system with a computer controller and a digitizer array for communicating with said emitter array of said guide;

positioning said guide in three dimensional space relative to a known reference point; and

forming the implantation space through said guide across the disc space and into a portion of each of the adjacent vertebrae.

27. The method of claim 26, wherein the contacting step includes the step of contacting one end of a tubular member having at least one emitter array attached thereto to the adjacent vertebrae.

28. The method of claim 26, wherein the positioning step includes the step of positioning said guide in three dimensional space relative to a known reference point in the adjacent vertebrae.

29. The method of claim 26, further comprising the step of positioning into the disc space between the adjacent vertebrae said guide having an extension for insertion into the disc space and for bearing against end plates of the adjacent vertebrae.

30. The method of claim 26, further comprising the step of generating a display of the position of said guide.

31. The method of claim 30, wherein the generating step displays the location of said guide relative to the adjacent vertebrae to provide a view of the axial orientation of said guide relative to each vertebra.

32. The method of claim 30, wherein the generating step displays the location of said guide relative to the adjacent vertebrae to provide a view of the axial orientation of said guide relative the adjacent vertebrae.

33. The method of claim 30, wherein the generating step displays the location of said guide relative to the adjacent vertebrae to provide a cross-

sectional view of said guide relative to one of an anterior or posterior view of the adjacent vertebrae.

34. The method of claim 26, further comprising the step of emitting a signal from said emitter attached to said guide which is received by an apparatus representatively indicating that signal on a visual display.

35. The method of claim 26, further comprising the steps of reflecting a signal from said emitter attached to said guide which is received by an apparatus representatively indicating that signal on a visual display.

36 The method of claim 26, further comprising the step of implanting one of an artificial implant and a bone dowel into the implantation space.

37. The method of claim 36, further comprising the step of providing an inserter sized for passage through said guide, said inserter having at least one emitter array attached thereto for use in identifying the location of said inserter relative to the adjacent vertebrae, said inserter adapted to hold one of an artificial implant and a bone dowel for insertion into the implantation space.

38. The method of claim 37, further comprising the step of generating a display of the position of said inserter relative to the adjacent vertebrae to provide a view of the axial orientation of said inserter relative to the adjacent vertebrae.

39. The method of claim 38, wherein the generating step displays one of an artificial implant and a bone dowel on the end of said inserter.

40. The method of claim 26, wherein the step of forming the implantation space includes the step of passing a tool having an energy emitter through said guide.

41. A guide for use in performing spinal surgery to insert one of an artificial implant and bone dowel into an implantation space across a disc space and into adjacent vertebrae, said guide for use with a computer controlled surgical navigation system employing an energy-detecting array to track positions of said guide in three dimensional space relative to a known reference point, said guide comprising:

a body for providing access to the implantation space, said body having a passage adapted to receive one of the artificial implant and the bone dowel through said body for insertion into the implantation space; and

at least one emitter array attached to said body for use in identifying the location of said guide relative to the adjacent vertebrae.

42. The guide of claim 41, wherein said emitter array is an electrically energizable energy emitter array.

43. The guide of claim 41, wherein said emitter array emits reflected signals.

44. The guide of claim 41, wherein said emitter extends to the side of said body to provide a line of sight from said emitter to the energy-detecting array of the navigation system.

45. A system for use in performing spinal surgery to insert one of an artificial implant and bone dowel into an implantation space across a spinal disc and into adjacent vertebrae, said system comprising:

a guide for providing access to the implantation space, said guide having a passage adapted to receive one of the artificial implant and the bone dowel through said guide for insertion into the implantation space, said guide having at least one emitter array attached thereto for use in identifying the location of the guide relative to the adjacent vertebrae; and

a computer controlled surgical navigation system employing an energy detecting array to track positions of said guide in three dimensional space relative to a known reference point.

46. The guide of claim 45, wherein said emitter array is an electrically energizable energy emitter array.

47. The guide of claim 45, wherein said emitter array emits reflective signals.

48. The guide of claim 45, wherein said emitter extends to the side of said body to provide a line of sight from said emitter to the energy-detecting array of the navigation system.

49. A method for performing spinal surgery with a guide used to insert one of an artificial implant and bone dowel into an implantation space across a spinal disc and into adjacent vertebrae, said method comprising the steps of:

contacting one end of said guide having at least one emitter array attached thereto to the adjacent vertebrae;

employing a surgical navigation system with a computer controller and a digitizer array for communicating with said emitter array of said guide;

positioning said guide in three dimensional space relative to a known reference point; and

inserting one of the artificial implant and the bone dowel through said guide and into the implantation space.

50. The method of claim 49, further comprising the step of emitting a signal from said emitter attached to said guide which is received by an apparatus representatively indicating that signal on a visual display.

51. The method of claim 49, further comprising the steps of reflecting a signal from said emitter attached to said guide which is received by an apparatus representatively indicating that signal on a visual display.